



Impact of Mathematics Lab on School Students

Dr. Paras Jain

Director

Department of Education

Silicobyte Katni Degree College, M.P, India

Abstract:

The mathematics lab provides an opportunity for students to discover mathematics through doing. It is a self explanatory lab with activities in which students takes interest to understand mathematical facts practically through models continue work on the problems/tasks and use teachers as and when they are stuck. Present study is focused on impact of mathematics lab on school students in terms of learning, interest development, confidence development and subject effectiveness.

Keywords: Mathematics Lab, Science, Development

I. INTRODUCTION:

Mathematics lab is a place where one can find a collection of games, puzzles and other teaching and learning material. This material helps to explore world of mathematics, to discover, to learn and to develop an interest in mathematics. The activities are intended to give children an experiment of doing math and not merely for the purpose of demonstration. The activities help students to visualize and search reasons. They provide opportunity to make conjectures and test them and to generalize observed patterns. In science experiments, evidence of hypothesis is provided but in mathematics observed patterns can only suggest mathematical hypothesis and conjectures, not provide evidence to support them. Mathematics lab helps to enjoy solution of problems through informal exploration. It is a space to explore and design new mathematical activities, often math lab takes student's knowledge beyond the curriculum. Objective of math lab is to remove weakness, to develop much confidence, generate interest in subject, to make divergent thinkers to students. Math lab develops power of thinking and reasoning skill.

It includes models of geometrical shapes or paper cutting, paper folding techniques, concrete objects, charts, graphs, pictures, posters, blocks games, circle game, fraction model, geometrical geo sticks, measurement scales pattern, sorting, theorem etc. Mathematics lab is important especially for students of class1 to class 12. Mathematical games and puzzles are important for mental development of students. The activities could be done individually by students or with teachers. At this place students do experiments with numbers and geometrical shapes and try to generalize patterns. Students solve real life problems with real data because complex calculations are no longer a major consideration. Students make charts and models to illustrate mathematical ideas. The creativity of student development is allowed free play. Students find areas and volume of both regular and irregular solids. Interfaces between algebra, geometry, probability, calculus etc are experimented. Students enjoy learning mathematics. Mathematics has always occupied an important place in school curriculum. It's a tough as an

abstract subject, far removed from applications. There is too much emphasis on symbols and their manipulations and use in problem solving. Too much time is spent on routine monotonous calculations.

The goal of math education appears to be passing exam not understanding math, not developing capacity to think mathematically. It trains students to think there should be only one method of solving mathematical problem and only one solution to a problem. Mathematics is presented as purely deductive science though it is also an experimental science. Students are passive learners. Students do not talk math, discuss math or think math. Endless repetition, meaningless memorization, lack of interest is reasons that attribute negative attitude towards mathematics. To make interesting this subject concept of math lab was introduced and successfully is adopting by schools.

Objective of Study:

- To find out physical availability of math lab in school
- To find impact of math lab on students of different classes

Hypothesis:

There is no significant impact of math lab on student's performance among students of different class groups.

Methodology:

A descriptive survey method was applied for study. 10 schools were selected randomly where the mathematics lab was using for teaching. 300 students of class 6-12 were randomly selected; out of which 100 were class 6-8, 100 were class 9-10 and 100 were class 11-12. A self prepared questionnaire was used for students. Collected data was converted into percentage and analyzed.

II. FINDING & ANALYSIS:

Table.1. Impact of Mathematics Lab on Students

Class Group	No. of Students (%)				
	Easiness in Understanding Theories	Helpful in Finding Geometrical Concepts	Development of Confidence	Enhancement of Subject Interest	Subject Effectiveness
Class 6-8	64	56	71	59	62
Class 9-10	68	59	74	57	59
Class 11-12	70	61	75	54	58

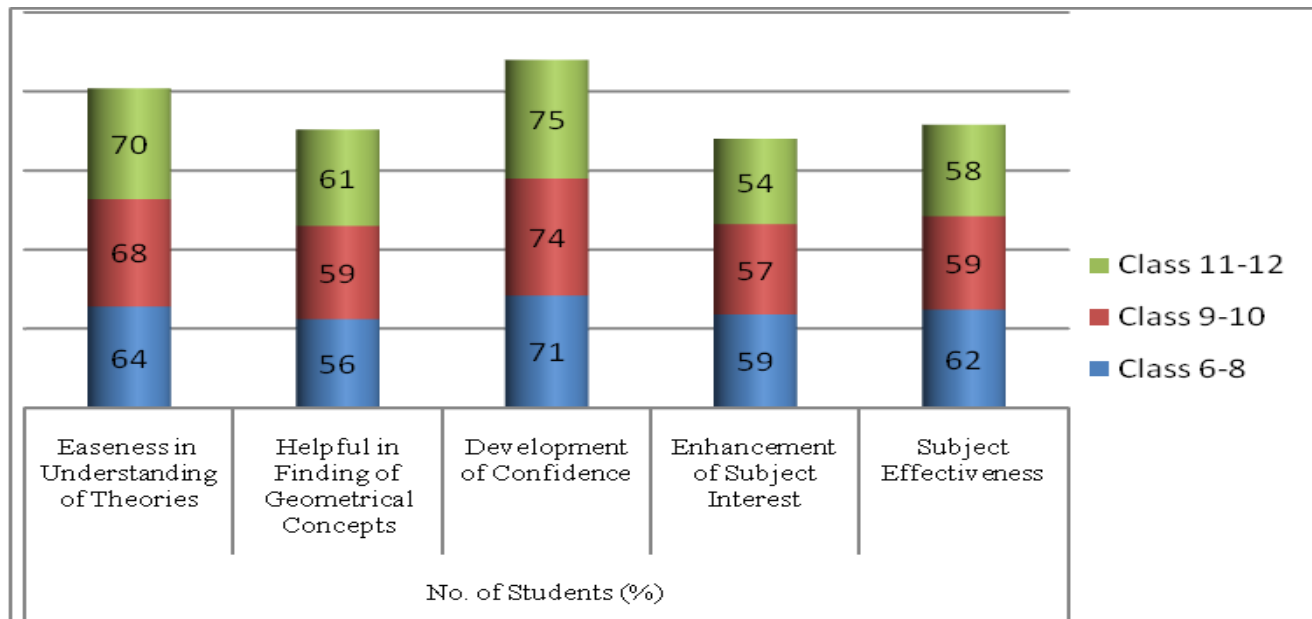


Chart.1. Impact of Mathematics Lab on Students

Collected data indicates that with the help of mathematical instruments to understanding theories 64% students of class 6-8, 68% of class 9-10, and 70 % of class 11-12 expressed their easiness using math lab. It is helpful to find geometrical concepts for 56% of class 6-8, 59% of class 9-10 and 61% of class 11-12. Math lab play important role to develop confidence as it has exhibited by 71% of class 6-8, 74% of 9-10 and 75% of class 11-12 students. Subject interest enhancement is showed by 59% of class 6-8, 57% of class 9-10 and 54% of class 11-12 students. Subject effectiveness found 62% in class 6-8, 59% in class 9-10 and 58% in class 11-12. Thus math lab influence student's performance, hypothesis there is no significant impact of math lab on student's performance among students of different class groups is rejected.

III. CONCLUSION:

Math lab makes teaching and learning activity based and experimentation oriented at school stage. It exhibits relatedness of mathematics concepts with everyday life. Math teacher should use math lab in teaching. Govt. should establish math lab in all schools like other science subjects lab. Math teacher should be trained for the use of math lab in the class.

IV. REFERENCES:

- [1]. www.dotsystem.in/mathematics-laboratoryschools
- [2]. www.mathmagic_elements.blogspot.com
- [3]. Yadav, J.S.P., Status of Math Lab in Schools: A Evaluative Study, *Psycho Lingua*, 43 (2), 2013.
- [4]. Singh, H.R., Singh, V.P., *A Handbook For Designing Mathematics Lab in Schools*, NCERT, New Delhi, 2005.
- [5]. Okigbo, E.C., Osuafor, A.M., Effects of Using Mathematics Laboratory in Teaching Mathematics on the Achievement of Mathematics Students, *Educational Research & Review*, Vol. 3 (8), 2008.